Stovepipe Warfare Execution:

Leveraging Architectures to Achieve Interoperable MAGTF C4ISR Systems

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Purpose

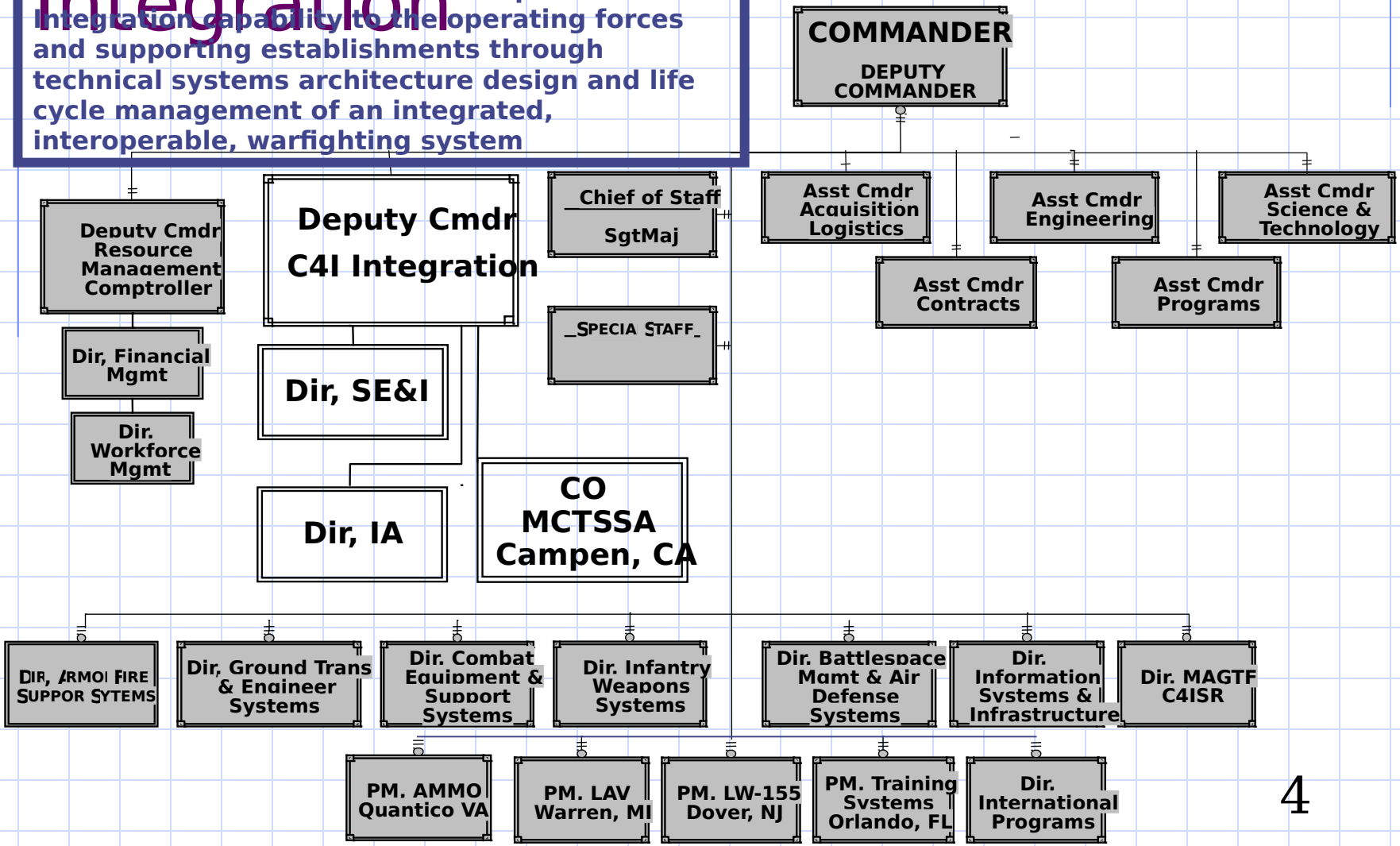
- Provide an end-to-end view of the strategy for achieving full integration across the Marine Corps Enterprise.
  - Initially focused on those systems under the cognizance of Commander, MARCORSYSCOM
- Provide examples of how various architecture tools will be used to make full integration happen.

Outline

- Methodology
  - Commander’s Intent
  - Limited Oversight
  - Enterprise Testing
- System Integration Environment

Mission of the Deputy Commander, C4I Integration

Mission: Deliver and sustain a superior C4I Integration capability to the operating forces and supporting establishments through technical systems architecture design and life cycle management of an integrated, interoperable, warfighting system

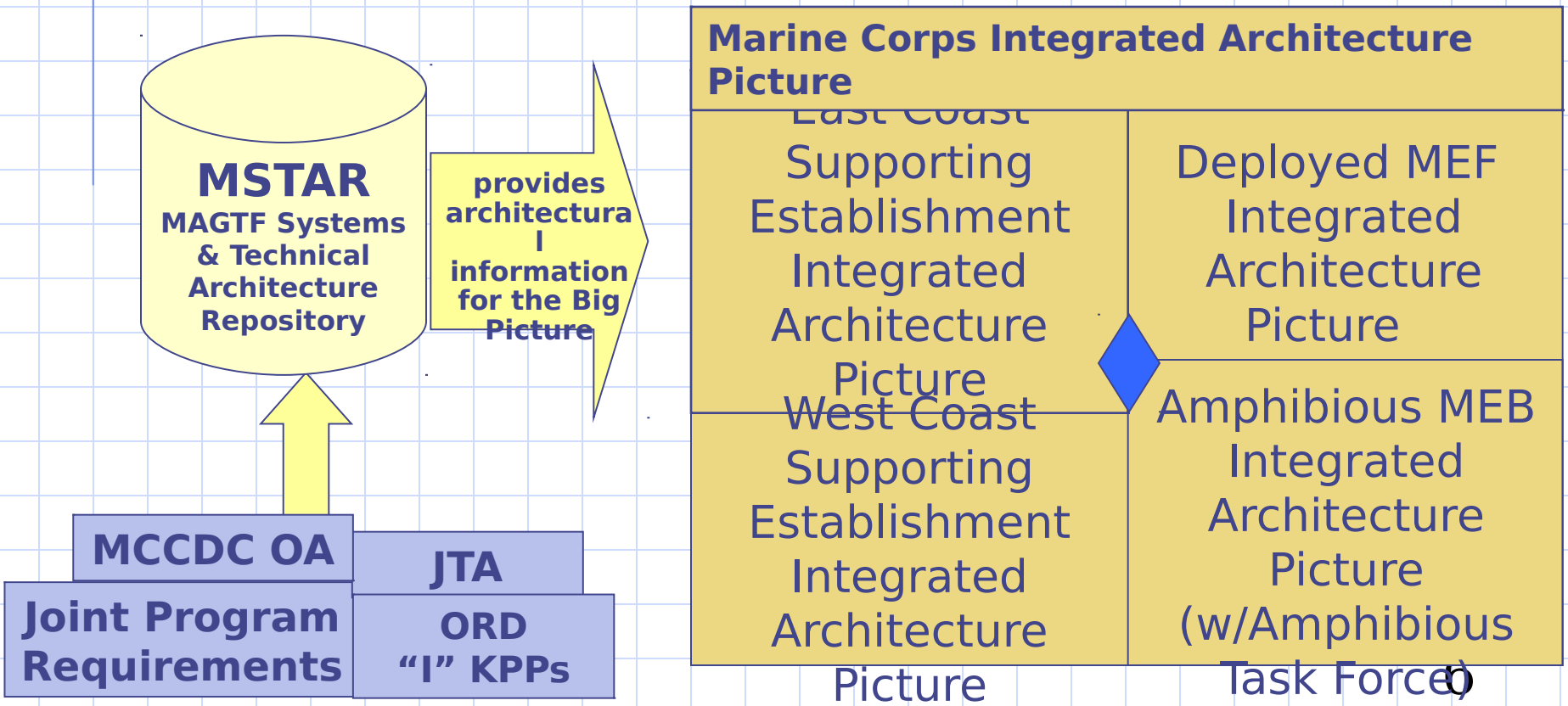


DEP CDR C4I Integration Methodology

- Allow for independent development and acquisition of systems under the direction of the Product Group Directors (PGDs).
- PGDs to act within the Commander's intent for interoperability with limited, targeted oversight by the Deputy Commander C4II.
- Enterprise-level testing of fielded and near term systems to measure FOS performance.

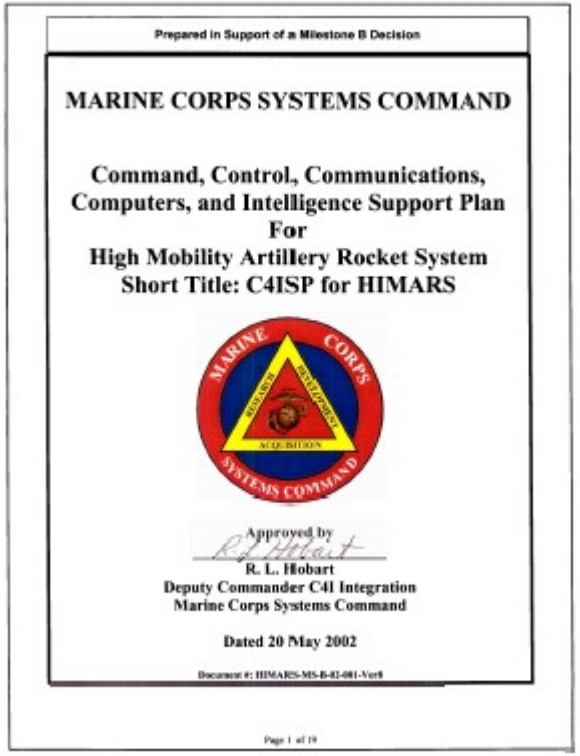
Commander's Intent

- Commander's intent is provided through a shared view of the C4ISR "Battlespace" – the MCIAP...


MSTAR
MAGTF Systems & Technical Architecture Repository
provides architectural information for the Big Picture
MCCDC OA
JTA
Joint Program Requirements
ORD "I" KPPs
Marine Corps Integrated Architecture Picture
East Coast Supporting Establishment Integrated Architecture Picture
Deployed MEF Integrated Architecture Picture
West Coast Supporting Establishment Integrated Architecture Picture
Amphibious MEB Integrated Architecture Picture (w/Amphibious Task Force)

Commander's Intent

- ... and then made specific to every program through the C4ISP:
  - Lists IERs and required architecture views.
  - Incorporates PM's plan to meet the requirements detailed in the views.
  - Approved by the DEP CDR C4II.
  - Under DEP CDR C4II configuration control.



Prepared in Support of a Milestone B Decision

MARINE CORPS SYSTEMS COMMAND

Command, Control, Communications, Computers, and Intelligence Support Plan
For
High Mobility Artillery Rocket System
Short Title: C4ISP for HIMARS

Approved by

R. L. Hobart
Deputy Commander C4I Integration
Marine Corps Systems Command

Dated 20 May 2002

Document #: HIMARS-MS-B-02-001-Ver8

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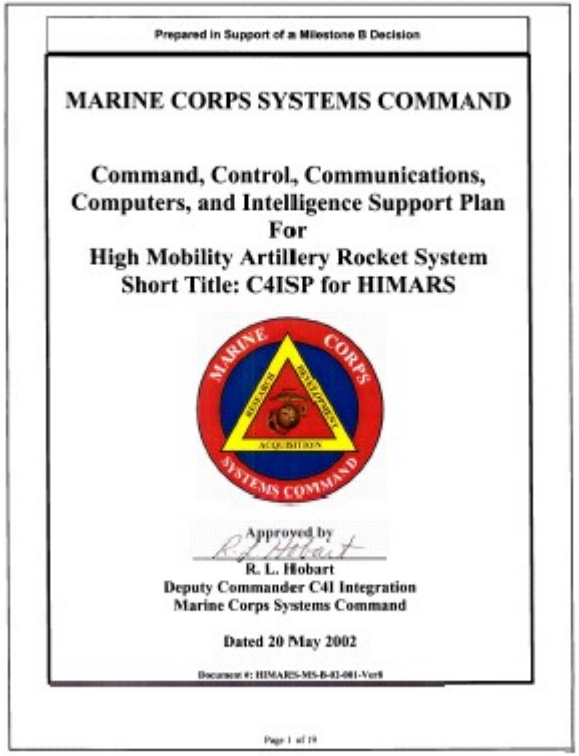
Commander's Intent

- The minimum set of architectural views used in every program is:
  - OV-1 Operational Concept
  - SV-2 System Interfaces
  - SV-6 System Interface Exchange Requirements
  - TV-1 Technical Specifications
    - Tailored JTA specifications
    - MCSC policies on common products



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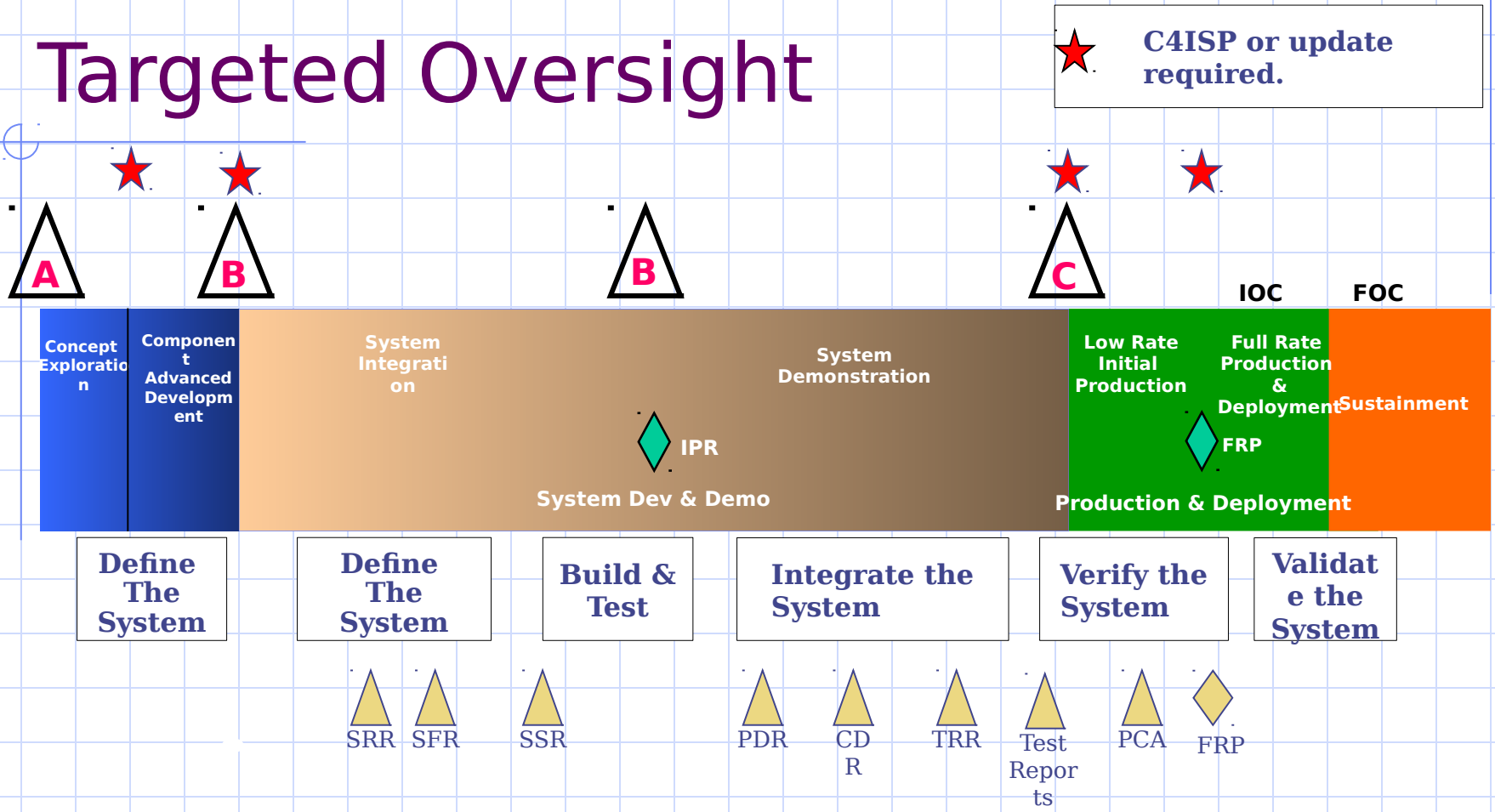
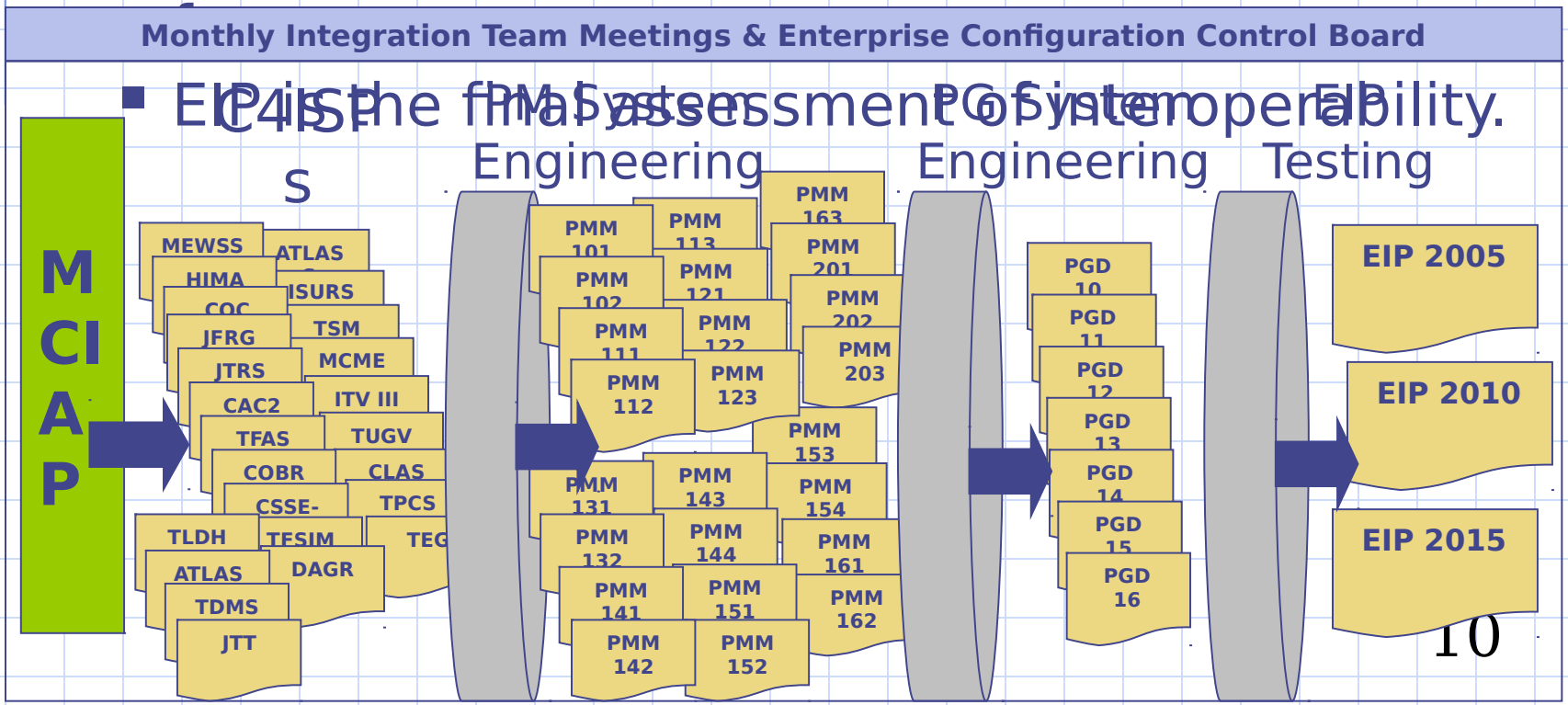
Targeted Oversight



DIR SE&I monitors program progress towards interoperability goals by reviewing system designs and test results, and approving revisions to C4ISPs when occurring.

Targeted Oversight

- The method relies on the performance of the system engineers of each project and each PG.
  - PG SEs advise on management issues in three
  - EIP is the final assessment of interoperability.



Enterprise Assessments

- Enterprise assessments are essential in order to measure how the FOS responds as a whole to the addition or changes in one or more systems.
  - This response cannot be measured during programmatic testing alone.
    - Requires that all systems be present and functioning as under operational conditions.
    - Not cost-effective to do this system-by-system.

- The Enterprise Integrated Product (EIP) is the name given to a particular FOS which will undergo assessment together. They are sequenced to the JCS Joint Vision series.

Enterprise Assessments

- Enterprise assessments will focus on customer-related issues.
  - Limited to fielded and nearly fielded systems.
  - Purposes:
    - Identify discrepancies in system performance which could not be measured in stand-alone testing.
    - Verify system end-to-end performance.
    - Characterize network performance under various load conditions and operational concepts; measure the network break-point for each configuration.

The Program View of the Methodology -

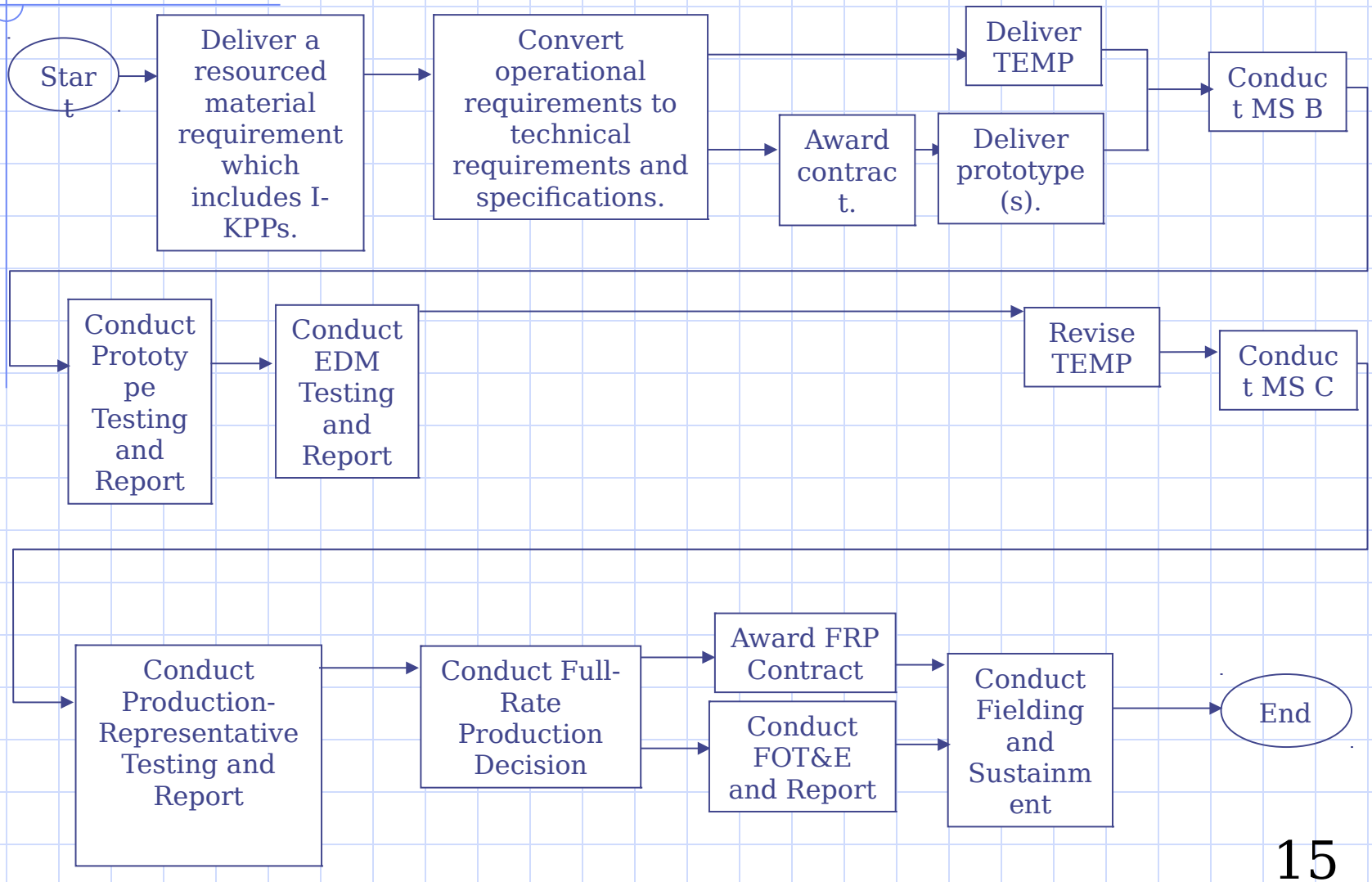
- Interoperability goals are set at the program start.
  - Changes to these goals are controlled at the highest level.
- Routine monitoring and issue resolution during development.
- Enterprise testing after the production baseline has been set.

The Program View of the Methodology -

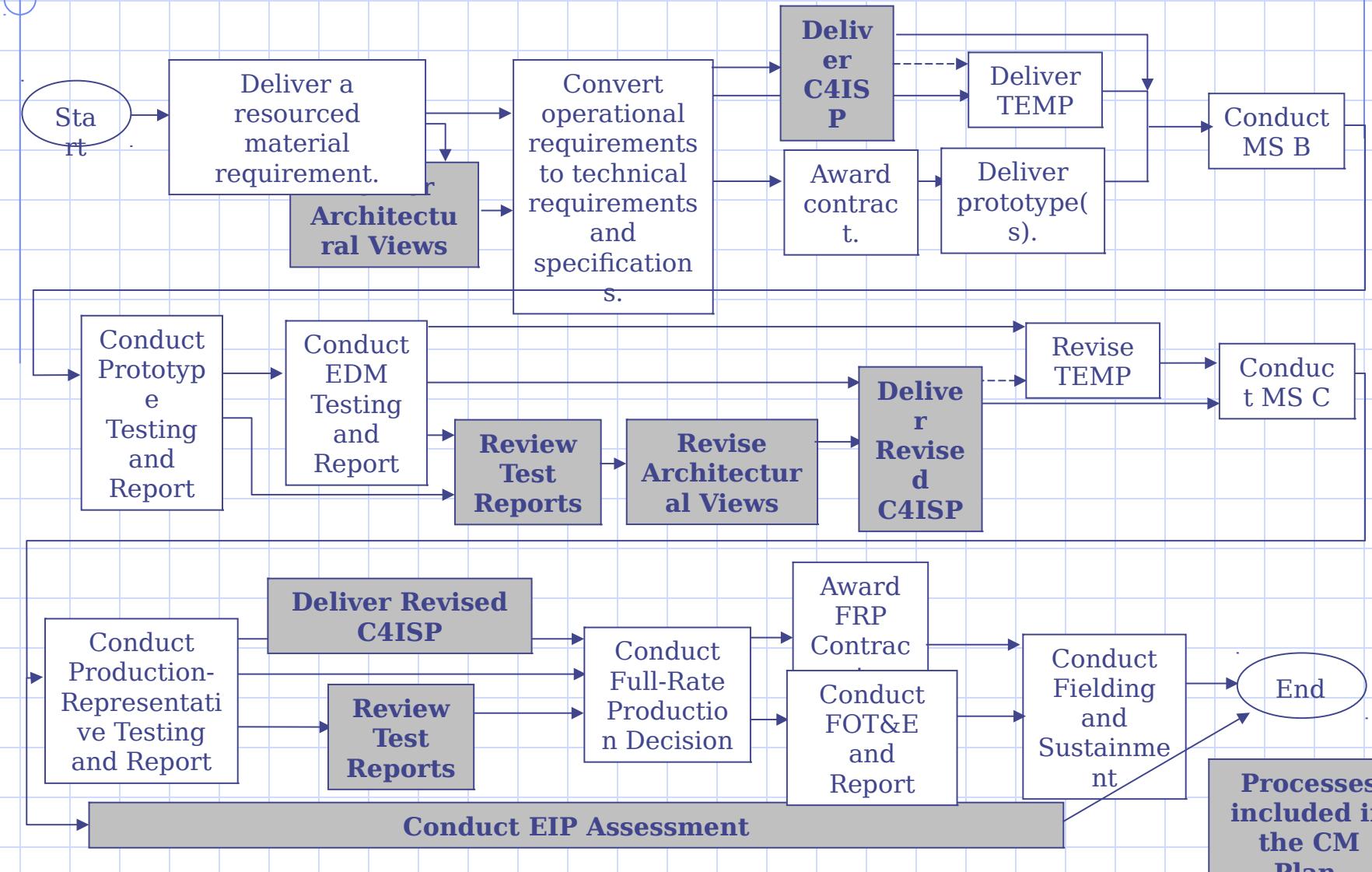
- EIP assessments avoid duplicative testing by recognizing that system-level testing accomplished by the Program Manager already includes test and evaluation for:

- Technical Performance
- System Intra-operability
- System Interoperability w/USMC Systems
- System Interoperability w/Joint Systems
- Joint Interoperability Certification Testing

The Program View:
Testing Processes under DoD 5000.2-R



The Program View:
Testing Processes w/CM Oversight Events



Conclusion

- The management strategy described herein takes advantage of system engineering going on inside of each program.
- Coordinates the design and execution of system interfaces and integration centrally by the use of architectural products.
- Ensures compliance through independent, targeted oversight and a “Final Exam”.